

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:
inputting means for inputting image data
5 described by a command correspond to each part of an
image;

interpreting means for interpreting the
command to form a bitmap image and to output an
attribute information;

10 scanning means for scanning an original image
to output color image data;

generating means for generating flag data
indicating attributes of the original image based on
the color image data and indicating the pixel
15 preferring the same image process as the pixel based on
the attribute information;

first combining means for combining the color
image data and the bitmap image; and

20 second combining means for combining the flag
data and the attribute information of the command.

2. An image processing apparatus according
to claim 1, wherein said flag data includes a character
flag, a color flag and a halftone dots flag.

25 3. An image processing apparatus according
to claim 1, wherein the attributes of the image is
generated based on a change amount of the color image
data.

4. An image processing apparatus according to claim 1, wherein an image processing is performed for the color image data based on the flag data.

5. An image processing apparatus according to claim 1, wherein attribute information of the command includes graphic attribute, color attribute, natural image attribute and PDL image attribute.

6. An image processing apparatus according to claim 1, wherein a combining method of the first combining means is the same as a combining method of the second combining means pixel by pixel.

7. An image processing apparatus according to claim 1, wherein the second combining means combines a character flag of the flag data and a graphic attribute of the attribute information.

8. An image processing apparatus according to claim 1, wherein a combining result of the first combining means is compressed by using one compressing method and a combining result of the second combining means is compressed by using another compression method, and wherein the compressed results are stored a storage device.

9. An image processing apparatus according to claim 8, wherein the combining result of the first combining means is compressed by using a irreversible compression method and the combining result of the

second combining means is compressed by using a reversible compression method.

10. An image processing apparatus according to claim 1, wherein at least one of a color space conversion unit and binarizing processing unit for the combined image is controlled by the result of the second combining means.

11. An image processing apparatus according to claim 10, wherein when a portion is regarded as a character area and a black-and-white area by considering the result of the second combination means, the color space conversion unit converts the image data correspond to the portion by using coefficient of only black.

12. An image processing apparatus according to claim 10, wherein when a portion is regarded as a character area or a halftone dot area by considering the result of the second combination means, the binarizing processing unit binarizes the image data correspond using an error diffusion method.

13. An image processing apparatus according to claim 10, wherein when a portion is regarded as a PDL image area and a natural image area by considering the result of the second combining means, the binarizing processing unit binarizes the image data using dither processing, when a portion is regarded as not to be a PDL image area and to be a halftone dot

area by considering the result of the second combining means, the binarizing processing unit binarizes the image data using an error diffusion processing.

5 14. An image processing apparatus according to claim 10, wherein when a portion is regarded as a character area by considering the result of the second combining means, sharpness processing is applied to the image data correspond the portion.

10 15. An image processing apparatus according to claim 10, wherein when a portion is regarded as a halftone dot area by considering the result of the second combination means, low-pass filter processing is applied to the image data correspond the portion.

15 16. An image processing method comprising:
 inputting image data described by a command corresponding to each part of an image;
20 interpreting the command to form a bitmap image and to output attribute information;
 scanning an original image to output color image data;
 generating flag data indicating attributes of
25 the original image based on the color image data and indicating the pixel preferring the same image process as the pixel based on the attribute information;
 combining the color image data and the bitmap image; and
30 combining the flag data and the attribute information of the command.

17. A computer program product, comprising a computer readable medium having computer program codes, said product including:

code for inputting image data described by a command correspond to each part of an image;

code for interpreting the command to form a bitmap image and to output attribute information;

code for scanning an original image to output color image data;

code for generating flag data indicating attributes of the original image based on the color image data and indicating the pixel preferring the same image process as the pixel based on the attribute information;

code for combining the color image data and the bitmap image; and

code for combining the flag data and the attribute information of the command.

18. An image processing apparatus comprising:

an interface unit arranged to input image data described by a command corresponding to each part of an image;

an interpret unit arranged to interpret the command to form a bitmap image and to output attribute information;

a scanner unit arranged to scan an original image to output color image data;

a generating unit arranged to generate flag data indicating attributes of the original image based

on the color image data and indicating the pixel
preferring the same image process as the pixel based on
the attribute information;

a first combine unit arranged to combine the
color image data and the bitmap image; and

a second combine unit arranged to combine the
flag data and the attribute information of the command.

19. An image processing apparatus according
to claim 18, wherein said flag data includes a
character flag, a color flag and a halftone dots flag.

20. An image processing apparatus according
to claim 18, wherein the attributes of the image are
generated based on a change amount of the color image
data.

21. An image processing apparatus according
to claim 18, wherein the color image data is processed
based on the flag data.

22. An image processing apparatus according
to claim 18, wherein attribute information of the
command includes graphic attribute, color attribute,
natural image attribute and PDL image attribute.

23. An image processing apparatus according
to claim 18, wherein a combining method of the first
combine unit is the same as a combining method of the
second combine unit pixel by pixel.

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corresponding to the portion to data by using
coefficient of only black.

29. An image processing apparatus according
to claim 28, wherein when a portion is regarded as a
character area or a halftone dot area by considering
the result of the second combination unit, the
binarizing processing unit binarizes the image data
using an error diffusion method.

30. An image processing apparatus according
to claim 28, wherein when a portion is regarded as a
PDL area and a natural image area by considering the
result of the second combine unit, the binarizing
processing unit binarizes the image data using dither
processing and when a portion is regard as not to be a
PDL area and to be a halftone dot area by considering
the result of the second combine unit, the binarizing
processing unit binarizes the image data using an error
diffusion processing.

31. An image processing apparatus according
to claim 28, wherein when an portion is regarded as a
character area by considering the result of the second
combine unit, sharpness process is applied to the image
data of the corresponding portion.

32. An image processing apparatus according
to claim 28, wherein when an portion is regarded as a
halftone dot area by considering the result of the

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wherein the bitmap image is combined with the scanned digital signal on image storing means; and the attribute information of the command is also combined with the attribute flag data on feature data storing means.

34. An image processing apparatus according to claim 33, wherein the attribute flag data includes PDL image flag which is information to determine image data correspond to the PDL, and wherein flag data is the scanned digital signal or image data described by the command.

35. An image processing apparatus according to claim 33, wherein an image processing is performed for the combined bitmap image and the scanned image signal; and wherein the image processes or parameters for the image process are changed based on the combined attribute information and the attribute flag data.

36. An image processing apparatus according to claim 34, wherein an image processing is performed for the combined bitmap image and the scanned image signal; and wherein the image processes or parameters for the image process are changed based on the combined attribute information, the attribute flag data and the PDL flag data.